ceroptosis. Clinical points: Appendix operation two and a half years ago. After operation vomiting. Since then miserable. Radiological diagnosis: No radiological signs of gastric or duodenal ulcer nor of any stenosis. Constipation of ascendens type. Radiological points: Bulbus duodeni perfect. Operative diagnosis: No gastric or duodenal ulcer. Visceroptosis.

Case 39. Clinical diagnosis or question: Appendix? Ulcer? Carcinoma? Clinical points: Five years ago severe pain in abdomen. Since one year severe pain in epigastrium right after eating. Nausea in mornings. No pain if he doesn't eat. Never vomited. Lost 20 lbs. in last four weeks. Radiological diagnosis: No radiological signs of active gastric ulcer or neoplasm. Probable chronic appendix (retrocecal?). Radiological points: Point of maximum pain coincides with cecum. Operative diagnosis: Old healed ulcer of stomach connected by band of adhesions with gallbladder. Chronic retrocoecal appendix.

Case 40. Clinical diagnosis or question: Gastric ulcer with perforation? Carcinoma ventriculi? After radiological examination—gastric ulcer with perforation? Retroperitoneal sarcoma with metastases. Clinical points: Acute pain in left hypogastrium for several months. Pain constant. Two months ago testicle removed. No blood in stools. Age 27. Rapidly growing tumor in left hypogastrium for several days. Radiological diagnosis: Large dilated stomach. Extraventricular tumor. Radiological points: Pseudo-filling defect. Operative diagnosis: Retroperitoneal sarcomatous metastases (cystic and solid).

References.

Schmieden u. Ehrenreich, Mitt. a. d. Grenzgeb. d. Med. u. Chir., B. 27, III Heft, S. 479.
Lippman u. Holzknecht, Fortschr. a. d. Geb. D. Röntgenstrahlen, XXI, 4, No. 15. Munch. Med. Weschr., Sept. 29, 1914.
Lippman, J. A. M. A., Mar. 21, 1914.
Lippman, Surg. Gyn. & Obstetrics, Dec., 1914.

Discussion.

Dr. W. C. Alvarez: There is little to add to this interesting paper. I am only afraid that in confining himself so closely to this phase of the subject, Dr. Lippman may seem to have made the subject clearer than it really is. I think that those who do this work find that the average case is not as clear and as beautiful as these that we have had described to us tonight. So many show either nothing definite or functional disturbances which may or may not have pathological significance. Dr. Lipman's material may be unusual in that it is largely referred to him by surgeons who would be more likely to get severe, long-standing surgical cases. Statistics compiled by Fenwick, Friedenwald and others show that about 85% of patients with gastrointestinal disease have functional disturbances. Granting that every year better diagnostic methods transfer a number of cases to the organic column, still, I think even in consultant practice, we will find eight or nine doubtful or normal cases to one in which there is a beautiful ulcer or carcinoma defect, hour-glass stomach, etc. Even in the ulcer cases I believe we will oftener find disturbances of function than craters and signs of perforation.

A word as to six hour stasis as diagnostic of organic lesions at the pylorus. I frequently find one or two ounces of bismuth in the stomach six hours after a meal when no pyloric lesion can be found. This may be present on occasions and absent on others. Very interesting is the fact that the stomach will empty rapidly in the first forty-five minutes and then there will be practically no change in the remainder for six to eight hours. In these cases I believe the trouble is to be found in the intestine. I saw recently a case in which a half ounce of bismuth remained in the stomach twenty-three hours. There was no sign of ulcer or carcinoma and the other findings were against such a diagnosis. Besides, she had had stasis symptoms for five years. Fig-skins were vomited eight days after she had eaten them. What she had was a markedly prolapsed uterus which I believe can explain the findings.

Dr. Lippman, closing discussion: My material is divided into consultation work chiefly from one group of surgeons and several groups of medical men—I average about 72% nonoperative and 28% operative cases. Dr. Alvarez mentions one or two ounces of bismuth residue after six hours—I only use one and one-third ounces for a meal and this would constitute a complete retention. I wish to reiterate I have never seen complete retention nor a large (I emphasize the word large) residue without organic lesion of some kind. The case which Dr. Alvarez quotes is unfortunately not an operated case. I confined my talk to operatively confirmed diagnoses. I think with the history which he offers and the findings that he might have found as I have in several similar cases reversed motion of the duodenal contents (so-called antiperistalsis) and duodenal ulcer of the lower part of the duodenum.

GENERAL PARESIS AND ITS RELATION TO SYPHILIS, WITH A REPORT OF THE PATHOLOGIST OF NAPA STATE HOSPITAL.

By A. W. HOISHOLT, M. D., Medical Superintendent, Napa State Hospital; Clin. Prof. Psychiatry, Stanford University.

General paresis, general paralysis of the insane or softening of the brain was first spoken of by Willis in 1672, but was not recognized and described as a disease entity until 1822, when the French alienist, Bayle, pronounced the somatic and psychic symptoms manifestations of one and the same disease. From 1822 to the middle of the last century, the efforts of investigators were centered on clinically outlining the disease-picture. At the end of the fifties, observations began to be made of the frequent occurrence of syphilitic infection in the history of general paralytics. Esmarch and Jessen in 1857, Steenberg in 1860, and Jespersen in 1874 first drew attention to this relationship; the latter in an article entitled *"Is Progressive General Paresis Due to Syphilis?"* Careful statistic researches in this direction were later made by Westphal, Erb, Fournier and Krafft-Ebing, and in the course of years, the percentage of general paresis, showing a history of probable syphilitic infection, gradually rose until it reached 85 to 90%, and in the cases of juvenile paresis, even higher. The medical profession was therefore quite ready to accept the results which were established by the Wassermann and Noguchi reactions, the Nonne—Phase I reaction of globulin increase, and the increase of the lymphocytes in the cerebrospinal fluid. Since these sero-diagnostic tests (known also as "the four reactions") have been recognized as indicators of luetic nerve degeneration, the assertion that "Without a previous syphilitic infection, there can be no general paresis" has become generally accepted.

The question was finally definitely decided when Noguchi a couple of years ago succeeded in demonstrating the finding of treponema pallidum in the brain in about 25 per cent. of 200 cases of general paralysis and especially when he, over a year ago, was able to produce typical syphilitic

sclerosis containing the syphilitic micro-organism in the testes of rabbits by inoculation of an emulsion of the brain obtained from a paretic individual.

Although the direct relation of syphilis to general paresis has thus been established as an absolute fact, we are not able to explain why it is that paresis only occurs in about 2 to 5 per cent. of all cases. Noguchi found in experiments on rabbits that, while luetic disease made its appearance in all body organs soon after inoculation, it took three to five months before the lues invaded the brain, which he ascribes to the great power of resistance of nerve tissue to the invasion by the treponema. The specimens of the latter found in the brain show an attenuation probably indicating a diminution of virility. It was thought by Kraepelin that intermediary products of decomposition, as in metabolic disease, may play a role in this resistance; especially has this been suspected in cases where alcoholism complicates lues. The influence of alcohol upon fatty substances may, according to Dr. Dedichen of Norway, cause a deterioration of the network of lipoid substances, which penetrates the living cell and acts as a protection preventing the decomposition of the cell-contents by warding off the contact with substances foreign to the cell-body. According to reesarch work by Bang, the lipoids are of perhaps greater importance to the human organism than the albumins, playing a role in the action of all enzymes and ferments.

But besides alcohol, there are other factors which may play a role in paresis. Some writers claim that general paralysis is a disease of civilization. Uncivilized peoples are but little or not at all susceptible, or only become so after they have become civilized. It is a well known fact that early generations of negroes, after immigration into the United States, seemed free from paresis, although they often became infected with syphilis. It is in the later generations of the colored race that paresis has been found increasingly prevalent. The same is true of Chinese and Japanese. I have observed but one or two cases of paresis among about 350 Chinese admissions to the Stockton State Hospital. About 80 per cent. of the inhabitants of Abyssinia are said to be syphilitic, but paresis is not met with there. Norway and Iceland are said to be almost free from general paralysis. Westhoff, a German writer, is quoted by Dedichen as saying that he looks upon the disease as specifically one of the German race. He amusingly concludes that the higher the anthropological standing of a race, the more apt is such race to fall a prey to the disease.

A secondary influence upon the course of a case of general paresis is that of endogenesis or of endogenetic psychoses. Most authors speak of a hereditary disposition in 40 to 50 per cent. of the cases. General paralysis has been divided into different forms. Kraepelin speaks of a demented, a depressive, a stuporous, a katatonic, a paranoid, an expansive, a circular, an agitated and a delirium tremens like form, which apparently is an expression of the mode of reaction of the individual to the morbid process. In many instances it would even seem that the varied psychotic pictures can only be explained by an accidental coincidence of two diseases, perhaps by another form of psychosis paving the way for the paresis or perhaps by the paralytic incipiency setting free a latent predisposition to insanity.

Notwithstanding the above recent developments in the relationship of lues to paresis, an understanding of the form of this relationship has not been reached. It has long been recognized that paresis does not belong in the tertiary stage of syphilis, and it was many years ago put in a category with tabes dorsalis as a para or metasyphilitic disease. Strümpell compared the relation of metasyphilitic disease to syphilitic infection with that of post-diphtheritic paralysis to the diphtheritic throat infection. It illustrates this relationship but the parallel is not completely covered when considering the progressive course of metasyphilis. Symptomatologically, we are still in the dark. With all clinical and serological tests at our disposal, we still encounter great difficulty in the differential diagnosis of lues cerebri; especially between the disease pictures, which have been termed syphilitic pseudoparalysis, where there is a diffuse meningo-encephalitis, and paresis. No absolute differentiating symptoms have in fact, to date, been discovered. It is only by weight of evidence that one can distinguish them, and in individual cases, one may sometimes be absolutely unable to decide. A mental deterioration with the occasional presence to a more limited extent of somatic symptoms is more general in paresis; while the recording faculty is less faulty, the intelligence defects more prevalent in spots only, and the judgment less deteriorated in the cerebrospinal lues than in paresis. In the former there is lacking, as Professor Hoche of Freiburg, Germany, puts it, the peculiar veil which it is customary to find enshrouding the whole mental being of the general paralytic. In the former case, the patient likewise does not himself look with such complete indifference upon severe somatic symptoms present; the pseudoparalytic may even be hypochondriacal in reference to these symptoms.

As to the somatic symptoms themselves, they do not serve as a criterion between the two. The pupillary symptoms may be the same; the speech disturbance likewise, though the cerebral syphilitic patient is more apt to be aphasic or show speech defects of a bulbar type. Irregularity and rapid change in the course of the symptoms, and a slow development of focal symptoms without apoplectiform attacks, speak more for brain syphilis. A gradual progressive increase in symptoms characterizes the latter, as a rule, only up to the time when antisyphilitic treatment is instituted.

Many physicians make use of the favorable result or failure of an antiluetic treatment as a means of distinguishing between the two forms. As this therapeutic test frequently gives positive results in brain lues, it is well indicated, even if it sometimes fails where the syphilitic process is very diffuse, perhaps because of its non-reaction to our present syphilis therapy or because the treatment was started too late.

In most cases, however, the differential diagnosis

is dependent upon a careful weighing of the different viewpoints and as Hoche says in his recent work, "there will undoubtedly remain a certain percentage of cases in which the most experienced will not be able, with certainty, to make the differentiation between brain syphilis and paresis during the life of the patient, nor will he in such cases any longer be able with certainty to differentiate them by post mortem findings."

With regard to "the four reactions," it may be said that a high cell-count was formerly considered indicative of brain syphilis, but there are many exceptions. Dr. Harrison reports in 22 cases of paresis found among the patients admitted to the Napa State Hospital during the first six months of 1914 that the cell-count was in six cases over 100; in one case, 322, and in two others, 170 and 182, respectively. The variations in the remaining "three reactions" do not at the present day give one the means of differential diagnosis between these two conditions (brain syphilis and general paresis), which at one time was the current belief.

In July, 1897, I published in the "Occidental Medical Times" a statistical report of 69 cases of general paresis admitted to the Stockton State Hospital during seven years, inclusive of the years 1890 to 1896. Out of 1,345 first admissions the average percentage of paresis was 5.13 per cent. Since then no statistical reports have been made showing the prevalence of paresis in California. In publishing the appended statistics from the Napa State Hospital, covering the period since I assumed charge of the institution, it is realized that the figures are small and the period of short duration, extending over but one year.

The thirty-four cases have all been studied serologically, as well as clinically, giving the subject of the differentiation of the syphilitic pseudo-paralysis from general paresis a careful consideration.

Period of admission.	Males admitted	Females admitted	Total admitted	Number paretic men	Number paretic women	Total number paretics	Ratio women to men	Total percentage among men and women.
July 1, '13, to Jan. 1, '14.	107	53	160	11	1	12	1:5.5	7.5
Jan. 1, '14, to July 1, '14.	159	71	230	20	2	22	1:4.46	9.56
Tot. average.							1:4.81	8.71

According to this table, 8.7 per cent. of all mental cases admitted during the last year have been cases of general paresis. In addition to the 34 cases of paresis admitted during the year, we have received five cases diagnosed as cerebrospinal lues. Two of these are women: one with a history of a hemiplegic attack a few months before admission, and complete restoration after antiluetic treatment; the other with history of miscarriage, certain somatic symptoms; sluggish pupillary reaction, absent left knee-jerk; fully oriented; no mental deterioration; Wassermann triple x in blood and liquor; cell-count 136, reduced to 35 after salvarsan treatment. The case appears complicated with a manio-depressive psychosis. Of the three men one has a history similar to the one just reported. A second case is an alcoholic pseudo-paralysis with lues, with high cell-count; now fast improving. The third is also an alcoholic with symptoms dating back a number of years, and all four reactions positive. Even if the five brain-syphilis cases be added to the paresis, we get for the year a percentage of 10 per cent., which is considerably less than percentages reported abroad, where they have varied from 15 to 22 per cent. Women admitted to Napa State Hospital, judging by the above report (1:4.8), are 50 per cent. less frequently sufferers in proportion to men than are women in Europe.

Napa State Hospital, October, 1914.

LABORATORY REPORT, NAPA STATE HOSPITAL.

By W. T. HARRISON, M. D.

During the biennial period ending June 30, 1914, the Wassermann reaction has been applied to the blood and spinal fluid only in suspected cases, but beginning with July, 1914, a routine examination of the blood serum is being made in all new admissions to the Napa State Hospital. An effort is also being made to extend this examination to the families of patients showing positive reactions.

On June 30, 1914, there were present in the hospital 52 patients showing positive Wassermann reactions in both the blood serum and spinal fluid—44 men and 8 women. Of these, all but three showed a definite increased globulin content in the spinal fluid, and all showed an increased lymphocyte count, ranging from 12 to 360 per cu. mm., more than 100 lymphocytes being observed in 13 cases. One additional case, a man, showed a positive reaction in the blood serum, but died before the spinal fluid could be examined. Post mortem examination showed the characteristic brain changes of paresis.

The original Wassermann reaction is employed, using as antigen a cholesterinized, alcoholic extract of human heart muscle. This reagent has been accepted as the most reliable, after having compared the results obtained with various extracts, including alcoholic extract of luetic foetal liver, alcoholic extract of normal organs, and the acetone insoluble fraction; the last two were found to yield unreliable results and were early discarded.

A series of 157 specimens, both blood serum and spinal fluid, were examined, using both the cholesterinized and the luetic extract in each case. Eighty-eight of these specimens, 53 blood serums and 35 spinal fluids, yielded positive results with the cholesterinized extract; 78 specimens, 48 blood serums and 30 spinal fluids, yielded positive results with the luetic extract. Lues was present without question in all cases reacting positively to